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# Marketing Activities

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## --OUR AUTHORS THIS MONTH--

MASSACHUSETTS CRANBERRIES TRACE  
THEIR ANCESTRY BACK TO MAYFLOWERBy C.D. Stevens ..... Page 3

In charge of crop reporting work in the New England States for the Agricultural Marketing Service, Mr. Stevens' article on the Massachusetts cranberry industry is based on years of experience in "sizing up" prospects for this crop.

COTTON TRADE LIKES  
UNIFORM-WEIGHT BALESBy John W. Wright ..... Page 7

Dr. Wright, immediately in charge of cotton marketing studies for the Agricultural Marketing Service, is also keenly interested in "net weight trading" for American cotton. A forthcoming issue of "Marketing Activities" will carry an article on this subject.

## PEARS--A \$19,000,000 INDUSTRY

By H.H. Stippler ..... Page 11

Associate Agricultural Economist for the Surplus Marketing Administration, Mr. Stippler has played a large part in formulating the pear marketing agreements described in this article.

HONEY CROPS DEPEND  
ON FAVORABLE WEATHERBy Harold J. Clay ..... Page 17

Mr. Clay, Associate Marketing Specialist for the Agricultural Marketing Service, is immediately in charge of the Department's honey market news reports.

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## AND SPEAKING OF PICTURES--

An increasing number of farm magazines and trade journal editors are reprinting the signed articles carried in "Marketing Activities". In the past 2 months, articles widely picked up include "The Crop Reporting Board and the Farmers Swap Information" and "The Government Experiments with Continuous Inspection."

Though it is not always possible to include photographs with "Marketing Activities" articles, pertinent "pics" are usually available and will be provided upon request.

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The first official cranberry report of the 1940 season is bad news to cranberry eaters, but growers may have an easier time marketing their crops. Late in August the Crop Reporting Board estimated 1940 production at 553,000 barrels, which is 21 percent smaller than last year's crop of 704,000 barrels, and 6 percent below average.--Ed.

## MASSACHUSETTS CRANBERRIES TRACE THEIR ANCESTRY BACK TO MAYFLOWER

. . . . . By C. D. Stevens

Cranberries, which will be a "must" on every Thanksgiving table this fall, have an ancestry that traces back at least as far as the Mayflower. Genealogists of this colorful fruit's family tree report that the Pilgrims found wild cranberries growing in the marshlands adjacent to Plymouth soon after the colony was established in 1620.

Several attempts to cultivate cranberries on Cape Cod between 1810 and 1820 were unsuccessful. But by 1850 it was learned that the cranberry could be grown only on certain soils, that the use of sand increased the crop, and that flooding protected the vines from winter injury. After 1850 both the number of growers and the acreage increased rapidly.

The commercial cranberry industry has now been developed to such an extent that the annual income to growers averages close to \$6,000,000. Production centers are located in southeastern Massachusetts, New Jersey, Wisconsin, and near the mouth of the Columbia River in Washington and Oregon, though the Massachusetts area is by far the most important, normally producing almost 70 percent of the Nation's crop.

Since 1910, cranberry production in Massachusetts has prospered despite a small decrease in acreage and the appearance of important crop enemies, which at times have menaced the very existence of the industry. But the Massachusetts Cranberry Experiment Station at East Wareham, in cooperation with growers, has developed practical methods for improving water facilities and for controlling damage from frost, insects, and diseases. These improvements in cultural practices have resulted in a definite upward trend in cranberry production in the Massachusetts area during recent years.

### Swamp Lands Become Cranberry "Bogs"

Areas devoted to cranberry production in Massachusetts are called "bogs," and generally are developed from low level swamp land where the terrain permits the ready control of water supplies by means of dikes and drainage ditches. Cranberry bogs have also been developed on low areas that lack a satisfactory water supply, though dry bogs cannot be depended upon to produce a crop regularly. A well-constructed, well-cared-for cranberry bog will continue to yield satisfactorily over an indefinite period.

The cranberry plant itself is a low-growing woody vine whose short upright shoots carry an attractive evergreen foliage. On a mature bog the

upright shoots from the woody runners cover the ground in a thick green mat; the blossoms and fruit develop on the tips of the shoots. The plant thrives on acid peat soil to which considerable quantities of sand have been added. Two or three inches of sand are usually applied before planting and the bog area is resanded every second or third year with smaller quantities. Sanding is important because it aids the runners in rooting, covers debris, and helps in the control of insect and frost damage.

An adequate water supply is essential to successful cranberry production as the bogs must be either partially or entirely flooded. This requires either a natural water supply or the establishment of an artificial reservoir adjacent to the bogs. In many instances, bogs are flooded by the use of pumps, which also may be used to remove the water. Some bogs are favorably located on streams with a generous water supply and pumping is unnecessary. The flooding prevents winter injury to vines, damage to vines and fruit from spring and fall frosts, and helps to control many of the insects and diseases to which cranberries are subject. Some enemies of the crop that may be controlled by judicious combinations of flooding and spraying include false blossoms, fruit worm, gypsy moth, and root grub.

As needles flooding of the bogs is harmful to the crop and wastes limited water supplies, a substantial number of Massachusetts cranberry growers have cooperated with the Cranberry Experiment Station in developing a frost warning service. At times when frosts are likely to damage the crop, special weather data are collected at key points, and probable minimum night temperatures are calculated by the Experiment Station. The results are made immediately available to subscribing growers by telephone so that they may proceed, if necessary, to protect their bogs from probable damage.

Cranberry harvesting in Massachusetts begins early in September and is usually completed by about October 15.

#### Cooperative Marketing Associations

The cooperative marketing associations in the various producing areas have done an effective job of distributing the crop for their members. This cooperative movement, which began in Wisconsin about 1897, is now the biggest factor in the marketing of cranberries.

The American Cranberry Exchange is the most important of the co-operative organizations, having member units in each of the 3 leading cranberry-growing sections--in Massachusetts, the New England Cranberry Sales Co.; in New Jersey, the Growers' Cranberry Co.; and in Wisconsin, the Wisconsin Cranberry Sales Co.

On the Pacific Coast, the Pacific Cranberry Exchange operates in much the same manner as the American Cranberry Exchange.

The operations of the American Cranberry Exchange, which handles about two-thirds of the Nation's crop, illustrates the methods followed by an efficient cooperative in its efforts to assist member cranberry growers.

Marketing Program Based on Crop Prospects

Shortly before harvest crop prospects are thoroughly investigated in the cranberry-producing States by Agricultural Marketing Service crop statisticians, and these surveys provide the basis for the first forecast of production released in late August. The forecast, together with information collected from their own membership, is used by the American Cranberry Exchange and its associated sales companies in each area as the basis for a definite marketing program for the current season's crop.

In planning the marketing program, consideration is given to probable supplies as represented by prospects for the current crop, to available supplies of berries from previous crops held over in the freezers for canning, to the outlook for consumer incomes during the current marketing season, to probable supplies of competing fruits, and to any other factors that might limit market outlets for the crop. In this way, a fair price for fresh cranberries is established at the beginning of the marketing season and is announced by the sales companies representing the American Cranberry Exchange in each area. Market prices for fresh cranberries invariably follow the announced price quite closely. When the market for late varieties is opened after harvest the prospect is reconsidered, but material adjustment is rarely necessary.

The American Cranberry Exchange follows a definite program, which, in addition to price stabilization, includes the pooling of berries to be marketed as fresh fruit. Berries for the fresh fruit market are carefully sized and graded; berries that are not suitable because of tender keeping quality are sold to canners for immediate packing. Prices received by growers marketing through the sales companies are equalized for the same grades and quality of berries. Grower members of the sales companies are also assessed 50 cents per barrel to be used in advertising and promoting the sale of cranberries. A program of this type has been carried on under the leadership of the American Cranberry Exchange for 25 years.

Surplus Berries Are Canned

Unprofitably low prices and glutting of the fresh fruit market are avoided by diverting more of the crop to canners who will hold the berries in freezers until the market can utilize the canned product. The marketing of the record-breaking large 1937 crop was not entirely completed until the fall of 1939 when the last of the berries from this crop were finally canned.

Cranberry canning is a development of the past 20 years. When first attempted, considerable difficulty was experienced because it was necessary to develop a can that would not be affected by the acid character of the fruit. In recent years, greatly increased quantities of berries are being marketed in this way. From the big 1937 crop, for example, berries taken for canning totaled approximately 275,000 barrels, or nearly one-third of the Nation's production that season. This development of the use of canned cranberries has effectively extended the marketing season for the crop from a few fall and winter months to a year-round basis.

## MORE THAN HALF OF MIDDLE WEST CORN ACREAGE PLANTED TO HYBRIDS

Corn Belt farmers are growing 25 million acres of hybrid corn this year, a recent Agricultural Marketing Service survey indicates. This means that with total corn plantings in the 12 North Central States estimated at 49,544,000 acres, more than half is planted to hybrids.

The spectacular increase in the acreage of hybrids throughout the Corn Belt has been one of the most significant agricultural developments of recent years. From a mere beginning in 1936, hybrid corn acreage has expanded by 1938 to 12 million acres, and by 1939 to 21 million acres. The 25 million acres under cultivation this year reflects the continued shift to hybrids that had been limited only by the supply of adapted seed.

The 1940 survey shows that 88 percent of Iowa's total corn acreage is planted to hybrids. In Illinois, the percentage is 77, and Indiana has 66 percent. Ohio has 57; Minnesota, 54; Wisconsin, 51; North Dakota, 3; South Dakota, 12; Nebraska, 23; Kansas, 8; Missouri, 28; and Michigan, 17.

There is little doubt that hybrids outyield open-pollinated varieties. In a survey made in 1939, crop correspondents reporting on both kinds indicated that hybrids outyielded other varieties that year by 10 to 30 percent, depending on the section of the country reporting. In the Eastern States, the increase averaged about 10 percent. In the western edge of the Corn Belt, where drought is a limiting factor, hybrids outyielded other varieties by as much as 20 to 30 percent. For the Corn Belt as a whole, the differential ranged between 10 and 20 percent. But if hybrids have increased corn yields by no more than 10 percent, the net effect has been to increase corn production by many millions of bushels without increasing acreage.

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## LIQUID EGG PRODUCTION AT HIGH LEVEL IN 1939

Liquid egg production totaled more than 220 million pounds in 1939--slightly less than the 1937 record production of 236 million pounds, but substantially in excess of the 1939 "break" of 149 million pounds. Agricultural Marketing Service officials estimate that egg breaking operations during the first 6 months of 1940 probably were of record proportions.

Liquid, frozen, and dried eggs--generally more economical than shell eggs--are extensively used by commercial manufacturers of bakery goods, salad dressing, and confectioneries. Whole eggs, plain albumin, and salted or sugared yolks can be purchased in any quantity for the particular use desired. Of the 1939 production, 80 percent was frozen, 14 percent was dried, and 6 percent was used immediately without freezing or drying.

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## COTTON TRADE LIKES UNIFORM WEIGHT BALES

. . . . . By John W. Wright

"How much does a gray suit cost?" is a question for which there is no answer. It all depends. But neither is there a definite answer to the question "How much does a bale of cotton weigh?" Though the average weight of the so-called American square bale is approximately 500 pounds, the weight often varies among individual bales from less than 300 pounds to more than 800 pounds. These wide extremes create a number of serious problems in the handling and marketing of cotton.

The disadvantages of extra-heavy bales are most noticeable at the gin and at the compress, the strain they place on expensive equipment often leading to damage or breakdowns. And such bales slow down compress operations, causing loss of time and extra expense. The Agricultural Marketing Service has also found that most of the so-called "air-cuts" complained of by cotton mills are found in heavy bales.

As heavy bales are difficult to tie out properly at the gin--in many cases they require extra ties to hold them together and broken ties are a common occurrence--they usually go through marketing channels with a clumsy and ragged appearance. And bagging generally does not hold up well, heavy bales requiring more extensive use of hooks in handling, and this often leads to damage of the bale package.

The cotton trade organizations provide an additional argument against overweight bales by stipulating that those exceeding certain weights may be rejected. The maximum weight allowed for merchantable bales varies for the different trade organizations from 650 to 700 pounds.

### Light Bales Also A Problem

Lightweight bales also have a disadvantage in that they make it difficult for compresses to build up the bale density required for greatest economy in shipping. But even more important, lightweight bales are subject to substantial penalties under trade rules, and to rejection if they are under a specified minimum weight. This minimum varies from 300 to 350 pounds for the various trade organizations. Cash penalties on a graduated basis are usually assessed against bales weighing less than 400 pounds and vary among different trade organizations from \$1 to \$5 per bale.

Bales subject to rejection are usually combined with other bales at the compress, the "marriage" ceremony involving an extra charge of \$2 or more. This practice often results in mixed-packed bales, and under the gross-weight system of trading there is also a weight loss that equals the weight of the bagging and ties on one of the bales.

American gin and compress equipment is designed for bales of 500 pounds, and marketing practices and procedures are based on this weight. Any substantial variation either way causes serious inconvenience and involves extra costs. If 500 pounds gross is established as a desirable

standard weight, a tolerance of 10 percent for variation in the weight of individual bales would be ample for practical purposes and would provide for an extreme range of from 450 pounds to 550 pounds.

### Growers Can Cooperate

The cotton grower himself can do much to solve the problem of varying bale weights. He can send to the gin just enough seed cotton to turn out bales of approximately 500 pounds in weight. He can determine the weight of seed cotton of the variety or varieties grown on his farm required for a 500-pound bale, because he usually knows, or can determine, the lint outturn or lint percentage by checking the first few bales ginned. The number of pounds of seed cotton required for a 500-pound gross-weight bale can be calculated by dividing the lint percentage into the net weight of the size bale desired. For example, if the lint percentage is 35 and the weight of bagging and ties is 21 pounds, 1368 pounds of seed cotton would be required for a 500-pound gross-weight bale. That is,  $500 - 21 = 479$  and  $479 \div .35 = 1368$ . Account must also be taken of the trash in the seed cotton and the grower will probably find it advantageous to have the collaboration of the ginner in working out this problem.

If two or more bales are sent to the gin in the same wagon or truck, an arrangement should be made to separate the seed cotton for each bale either by a permanent or an improvised partition of some kind.

The ginner can aid his patrons by working out estimates of the quantities of seed cotton required for bales of standard weight, and he can urge growers to bring their seed cotton to the gin in the proper quantities to facilitate turning out such bales. If a conveyance contains seed cotton for more than one bale, and does not have partitions to separate the cotton required for individual bales, the ginner can set his scales on the proper weight (if he knows the tare of the conveyance) so that he knows when enough cotton has been sucked off for a 500-pound bale.

The compressman, too, can establish policies and charges for his services that will encourage the packing of bales of the proper weight. And the cotton merchant and the cotton manufacturer, through their policies in purchasing cotton, can encourage the packing of proper-weight bales.

A small segment of the cotton industry believes that extra-heavy or lightweight bales mean savings in trucking, ginning, packaging, compressing, shipping, and storage costs. This might be true in some cases, even then it is a short-sighted consideration. More uniformity of bale weights would facilitate all services that have to do with the handling and marketing of cotton and would tend to improve the American cotton bale package.

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Dips and double dips are a modern idea, the Extension Service observes, but the original ice cream cone really emerged from the World's Fair in 1904. That was the beginning of the commercial ice cream industry.

SERVICE TESTING OF SEED  
TERMINATED SEPTEMBER 1

Service tests on seed in the Washington laboratory of the Agricultural Marketing Service were terminated September 1. Service tests involve the voluntary testing of samples for individuals who wish information on such factors as germination and purity, as contrasted with similar testing required under the Federal Seed Act for importations and interstate shipments.

For many years, the U.S.D.A. Seed Laboratory in Washington, D. C., made free tests -- up to ten germination and five purity tests per month -- for seedsmen, farmers, and other persons. Because of routine testing and other activities required in the administration of the Federal Seed Act it became increasingly difficult, with the available facilities, to make the tests.

The extent of service testing in the Federal-State seed laboratories will now be determined by officials of the States in which the laboratories are located. Such cooperative laboratories have been set up at Montgomery, Alabama; Sacramento, California; Lafayette, Indiana; Columbia, Missouri; Fargo, North Dakota; and Corvallis, Oregon. Facilities for the service testing of seed are also available in State seed laboratories.

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UNIFORM CLASSING  
FOR LOAN COTTON

All cotton used as security for Government loans in 1940 will be classed by official boards of cotton examiners of the Agricultural Marketing Service. This system of classing, used for the first time in 1939, will reduce inequities among producers whose loan cotton formerly was graded by warehousemen and individual licensed classers; and only slightly more time will be required for approval of the loans.

The class placed on cotton by an official board will be final, thus eliminating for the producer any expense or inconvenience for reclassing and for making deficiency payments for overclassing. In addition, the cost will be only 15 cents per bale as compared with the usual charge of 25 cents per bale under other procedures.

On delivery of cotton to the warehouse for the Commodity Credit Corporation loan, samples will be drawn by the warehouseman and shipped to the nearest central classing office. The samples will be classed and each bale listed on a special form signed by the board and returned to the producer. Loan values will be based on the class shown by this form. The Agricultural Marketing Service predicts samples will be classed usually within 36 hours and at the longest 72 hours.

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SOYBEAN STANDARDS PROMULGATED  
UNDER U. S. GRAIN STANDARDS ACT

The official standards for soybeans that become effective next November 20 are basically the same as those now in effect on a voluntary basis. The grade specifications remain unchanged. Officials of the Agricultural Marketing Service expect the transition from the present voluntary system to the mandatory provisions under the U. S. Grain Standards Act will be made with little or no confusion but until November 20 soybeans will continue to be inspected in the same manner and under the same authority and regulations as heretofore.

Suggestions for changes in the soybean standards were made recently following a series of public meetings held in the Middle West for the purpose of discussing the promulgation of the present standards under the Act. Some of these suggested changes involve basic or fundamental provisions; others call for adjustments in the limits of the grade factors. Available data will be studied carefully and further research made in order that full consideration can be given to the merits of these proposals.

Copies of the official Grain Standards of the United States for Soybeans and further information regarding the inspection of this commodity under the U. S. Grain Standards Act may be obtained from the Agricultural Marketing Service, Washington, D. C., or from any of its grain and seed field offices.

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APPLE MARKET REPORTING SERVICE  
RESUMED BY MASSACHUSETTS AGENCY

Resumption of the apple market reporting service is announced by the Division of Markets of the Massachusetts Department of Agriculture. Reports cover prices by varieties and grades and comment on supply and demand for Boston, Springfield, Worcester, Providence, New York City, and other eastern markets. In addition to market news, the reports also include information on crop prospects in local and in competing areas together with prices being paid at shipping points during the shipping season.

Of special interest to growers is the cold storage section, which comprises twice-a-month reports on holdings of McIntosh and of other varieties in the Boston Market Area, and monthly reports of a similar nature covering Springfield, Worcester, Providence, Portland, principal storages in Connecticut, and New York City, together with a monthly summary of the national situation. Other items included in the reports are timely comment on trends in the fruit business; notices of fruit-growers' meetings; information on regulatory matters; and other items of interest.

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The 1940 spring wheat crop is of better-than-average quality.

## PEARS--A \$19,000,000 INDUSTRY

By H. H. Stippler

Pears have never received quite as much publicity as apples. At least, nobody has ever stepped forward to claim that "a pear a day keeps the doctor away." But in spite of this fruit's modest place in the pages of medicine, pear production in the United States is now definitely "big business." The 1939 pear crop of about 31 million bushels was valued by the Crop Reporting Board at almost \$19,000,000. And among other fruits, it is exceeded in value only by citrus fruits, apples, peaches, and grapes.

Pears are produced in every section of the country, but of major commercial importance is the production in five States: California, Oregon, Washington, New York, and Michigan. The annual crop in these areas accounts for about three-fourths of the total United States production. In Ohio, Pennsylvania, Illinois, Indiana, and a few other States, a considerable volume of pears is produced commercially, but in these areas production, generally speaking, is not so specialized and is chiefly of local importance.

The location of the pear industry today is the result of a number of factors, among which climate, susceptibility to disease, soil, and competition with other crops are the most important. At the turn of the century, pear production was largely centered in the Eastern States, but climate, and particularly susceptibility to disease, prevented an expansion in production and limited it in many areas to varieties resistant to pear blight. With the advent of adequate transportation and refrigeration facilities, production began to increase on the West Coast. In this area, where the climate is more favorable and the control of pear blight is possible, the industry could expand beyond the limit formerly set by the volume which could be absorbed in nearby markets. Today, the three Pacific Coast States supply two-thirds of the total production of pears in the United States while in the Eastern States, where nearness to large consuming centers is an important factor, pear production is gradually shifting to the most favored areas but is not increasing appreciably.

The Bartlett Leads Other Commercial Varieties

In the commercial orchards of the Pacific Coast States, the Bartlett pear, the most important commercial variety in the United States, reaches a high degree of perfection. Here climate and soil are favorable for the control of blight to which this variety is so susceptible. The harvesting period of Bartlett pears begins in central California at the end of June or the beginning of July and ends in the late districts of the Northwestern States, and those of the Eastern States, at the middle or end of September. Bartletts are generally well suited for fresh consumption, canning, and drying. One or the other type of utilization, however, is usually predominant for fruit originating in any particular district. Though most of the Bartlett crop is consumed in fresh form, substantial quantities are used for canning, particularly on the Pacific

Coast. The volume dried is comparatively small and is confined almost entirely to California Bartletts. Canning and drying is generally done immediately or shortly after harvesting. For fresh consumption, most Bartlett pears can be successfully stored up to two months so that the larger markets are well supplied from the middle of July to the end of October.

The Kieffer pear is the variety most widely grown in farm and home orchards in the Middle West, East, and South, while production in the Pacific Coast States is negligible. The Kieffer pear tree does not require much attention; it is valued because of its vigorous growth, productiveness, and resistance to blight. The fruit, which matures during September, is very good when properly ripened and cooked. It is used largely for canning, home preserves, and to some extent for drying. The preparation of the fruit requires some care and, because this is not generally appreciated, a large quantity grown for home use goes to waste or is poorly utilized.

Little known until recently, except in a few large markets, are the so-called fall and winter pears, or late dessert varieties, which are consumed almost exclusively in fresh form. In the order of their harvesting period, the Hardy, Anjou, Bosc, Comice, Winter Nelis, and Easter Beurre are the most important varieties with production concentrated in highly specialized sections of the Pacific Coast States.

#### Most of Hardy Variety Normally Exported

The Hardy variety harvested during August is a midseason variety produced only in California. Because of its earliness and good carrying quality, from 90 to 95 percent of the crop has normally been exported, chiefly to Europe. The pear has excellent eating qualities but compared to the other late varieties it has a limited storage life and is, therefore, marketed mainly during August and September.

The most important from the viewpoint of volume, and probably the best known of the late varieties, is the Anjou pear which is harvested from the end of August to the end of September or the beginning of October. It is an attractive fruit of high dessert quality and keeps well, the marketing season often being extended into April. Normally, over 40 percent of the crop is exported and the remainder sold in domestic markets where it is more widely distributed than any of the other late varieties.

The Bosc variety, more generally known, has a characteristic shape, sweet taste, and a yellowish brown color. It is harvested from the end of August to the middle of September, and is in prime market condition in October and November, though the season usually extends to the end of December. Almost the whole Bosc crop moves to domestic markets, the larger share being sold in the large eastern fruit auctions.

Not widely known but one of the best-flavored varieties is the Comice, a stubby, large-sized, yellowish-green pear. It is harvested be-

tween the latter part of August and the end of September. The marketing season is about the same as that for Bosc pears--extending into December. Markets for this variety, for no apparent reason, have been somewhat limited in number. Of the export shipments, which have amounted to over 60 percent of the total, England and France have been by far the largest receivers. Among the domestic markets, New York City receives about 90 percent of the carlot shipments and it is difficult to find this variety offered in any of the small markets.

The Winter Nelis variety is a medium-sized, well-flavored pear of yellowish-green color, often with large areas of dark brown russet. It matures later than the more popular Bosc and Anjou varieties and is harvested between the middle of September and the middle of October. Except for exports, which are made early, this variety does not appear on the domestic markets until in January, keeping well in cold storage until late into the following spring. Almost three-fourths of the Winter Nelis pears produced on the Pacific Coast have been exported.

One of the latest varieties to ripen is the Easter Beurre. It is valued because it is a heavy producer, handles well, and can be stored until May. It is harvested during the first part of October. The fruit has a somewhat unattractive green color and is coarser than other late pears. It is sold chiefly in domestic markets.

In addition to the above varieties, there are a considerable number of less important commercial varieties of pears, and the horticulturist might even be able to enumerate several hundred varieties that are not grown commercially.

#### Pears Harvested When Mature But Not Ripe

Pears intended for fresh shipment in order to handle and keep well are harvested when they have reached maturity but are not ripe. In determining maturity, growers no longer rely upon guesses but use a pressure tester. In some cases, a test of the sugar content is also made as the pressure for proper maturity varies somewhat under different soil and climatic conditions. Most varieties are harvested in more than one picking. Only the late ripening varieties and those of which only small quantities are grown in any one orchard are harvested in one picking. Nearly all pears, particularly the Anjou and Comice varieties, in order to handle well must be picked very carefully as they puncture or bruise easily.

From the orchard the fruit is rushed to the packing house where the spray residue is removed through a washing process. Then the fruit is sorted into the varicus grades and sizes, each pear being wrapped in paper and placed in a sturdy box or basket, which is lined on the inside with heavy paper in order to protect the fruit in transport. Pears of varieties that are generally held in cold storage for two months or longer, and that decay easily when slightly defective, are wrapped individually in chemically treated paper which prevents the spreading of decay in the box from one pear to the next.

Fruit Inspected at Packing Houses

Official inspection and certification as to grade, as well as weight checking, are generally done in the packing house before the containers are lidded. After the fruit is packed, it is either pre-cooled and placed into railroad cars for immediate shipment to market or transported to cold storage plants where it remains under refrigeration until ready for market. In storage, the fruit is kept under evenly low temperature to prevent ripening. A constant check is made not only of the temperature but the moisture content of the air and the condition of the fruit.

Nearly all domestic shipments of Pacific Coast pears are made in refrigerated railroad cars, while most export shipments are made by refrigerated boat through the Panama Canal. When time is an important factor as, for instance, in the export shipments of Hardy pears from California to Europe, the fruit is moved overland to an eastern seaport where it is loaded promptly on a refrigerated ship. A large volume of pears grown in the Middle Western and Eastern States are shipped by truck, refrigerated trucks being used more and more except where distances are very short.

The type of icing used in refrigerated railroad cars depends upon the time of shipment and the outside temperature. When temperatures are high, the bunker of the car must be kept filled with ice, which is done by replenishing at every icing station along the route. At fairly low temperatures one re-icing in transit may be sufficient, but when outside temperatures fall below freezing a heater must be installed in the car to protect the fruit from frost.

Retail Practices Need Improvement

Though great care is taken and considerable expense is incurred in the harvesting, packing, storing, and transportation of pears to make sure that they reach the consumer in perfect condition, the fruit, particularly of the late varieties and in the smaller markets, is frequently offered in an unedible condition. This has discouraged consumers somewhat from buying this excellent fruit during the winter months. Unlike Bartlett pears, which ripen up quickly, the late varieties of pears, when removed from cold storage, are hard and do not have much flavor. They are mature but not ripe. In this condition they are comparable to green bananas, which have to be placed in ripening rooms before they are at their best. Although it is not difficult for the consumer to ripen a small quantity of Bosc, Anjou, or any of the other late varieties at room temperature, it means waiting three or four days after purchase--sometimes even longer--before the pears can be eaten. No consumer, however, is willing to wait that long. The consumer expects, quite reasonably, that pears offered for sale, like other fruit, should be in an edible condition.

Recognizing this, the pear industry on the Pacific Coast in co-operation with receivers, particularly in the larger markets, have recently initiated a ripening program under which only ripe pears in prime condition are offered to the consumer. But until ripening is practiced gen-

erally by the trade, even in the smaller markets, consumers who want to enjoy a pear at its best will have to be patient for a few days after purchase until the pear, when held in hand, gives to a slight touch of the thumb.

Though retail practices need improvement, one of the major problems of the industry is that of surplus production. During a time of general prosperity and high prices for pears, particularly during the early 1920's a large number of trees were planted and came into full bearing shortly before and after the depression of 1932. Production of Pacific Coast pears, especially of the late varieties, had increased to an extent at which market supplies became too burdensome and prices in many years dropped to unprofitable levels. Unlike the growing of an annual field crop, the orchardist cannot get into tree fruit production and out of it in a short period of time. Large expenses are incurred during six to eight years before a pear orchard begins to bear enough fruit so that it will pay for its annual care in normal times. For these reasons changes come about very gradually and growers must adapt themselves to the new conditions by either reducing cost of production, increasing the quality of the fruit, or expanding their markets.

A more serious threat to the pear industry has been the recent loss of the export outlets in Europe. Exports of pears in all forms in terms of fresh fruit, taking the average of the 1934 to 1938 seasons, totaled slightly over 141,000 tons, or nearly 20 percent of the total annual production of pears during these years. And still higher proportion of exports would result if only commercial production is taken into consideration. Exports of fresh pears constituted 47 percent of the total exports, those of canned pears 35 percent, and dried pears 18 percent of the total. How serious the present loss of the European market is going to be will depend upon the duration of the war, the extent to which European countries will be able to purchase American fruit after peace has been re-established, the success of producers' efforts to increase domestic consumption, and the expansion of exports to non-European countries.

#### The Government Helps the Industry

Even before the first Federal marketing agreement program regulating grades and sizes went into effect for California Bartlett pears in 1935, the industry had attempted to control the quality of pears to be marketed in interstate commerce by voluntary agreement. Today, California Bartlett pears and the major varieties of Pacific Coast fall and winter pears are all shipped under regulation.

Regulations of shipments are of two major types. They either control the quality of fruit to be marketed in interstate commerce by restricting or prohibiting the shipment of low grades and undesirable sizes, or they control the volume of permissible shipments daily or weekly in order to adjust supplies to existing demand conditions. A different and entirely voluntary program is in effect for Pacific Coast late pears, in addition to a marketing agreement. For the development of new markets to absorb the increasing volume of production of these pears, the Government under this so-called diversion program, after the fulfillment of certain conditions, has agreed

to make a benefit payment on each shipment to designated domestic and export markets which formerly had not received any or insignificant quantities of late years.

In addition to these various types of agreements, purchases of excess supplies of fresh pears for relief distribution are made from time to time to prevent major price declines at critical times during the season. Pears are also included in the list of commodities that can be purchased by low income families in areas in which the Food Stamp Program is in operation.

Recent estimates by the Crop Reporting Board have placed the total 1940 pear crop at well over 31 million bushels or 7 percent in excess of the most recent five-year average. A large crop of good quality, together with greatly reduced exports during the current season, will ensure liberal supplies in all domestic markets. Bartlett pears have been available for some time and will continue to be offered during September and into October. The late varieties of pears, of which the Hardy pear is already being sold, will appear in volume around the middle of September or the beginning of October. They will be available until late next spring.

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#### AMS BARS USE OF PHRASE

"AFFIDAVIT GRIMM ALFALFA"

The use of the name "Affidavit Grimm Alfalfa" on bags, or on tags attached to bags of seed shipped in interstate commerce, is not permitted by the Federal Seed Act, the Agricultural Marketing Service warns. The word "affidavit", it is pointed out, is not a part of the name of the kind, type, or variety that is required to be stated on the label.

"Affidavit Grimm" in quotations on invoices and in advertising matter has in the past tended to deceive buyers of alfalfa seed, it is stated. Whether the use of the term in advertising in interstate commerce is a violation of the Federal Seed Act is a matter for the courts to decide. The Service is of the opinion, however, that the term should not be used because of its abuse in the past.

A grower's declaration of variety as provided for in the regulations under the Federal Seed Act serves the same purpose as the grower's affidavit. This applies to other varieties of seed as well as to "Grimm Alfalfa". A grower should not be urged to sign a grower's declaration as to variety, seed officials say, unless he has the knowledge or records to justify such action.

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Another increase in import duties on tobacco products by the United Kingdom makes the tax on a package of cigarettes there about 20 cents as compared to 6.5 cents in the United States. The increase is the fourth since April 1939.

HONEY CROPS DEPEND  
ON FAVORABLE WEATHER

. . . . . By Harold J. Clay

The severe winter preceding the 1940 season has demonstrated to beekeepers that honey production is a constant gamble with the weather. In New York State--normally a good honey-producing area--the State Extension Apiarist estimates last winter's colony losses at 40 percent, in addition to thousands of colonies too weak to harvest this year's clover nectar. And in Ohio, usually well up to the front in honey production, commercial beekeepers lost a large percentage of their colonies last winter. With plenty of honey in the hive, the bees in many colonies were unable to move to the food because of the extreme cold.

But honey production may be a gamble even when weather conditions are favorable. In western irrigated areas, once thought to be sure of a good honey crop year after year, colonies may be weakened by spray poison used on the cotton or alfalfa crops, or the plants may be damaged by weevils or other pests and not yield nectar satisfactorily. Colonies must be located where nectar-producing plants are abundant, of course, but the colony must also be strong enough to gather honey over and above current needs.

One of the most important factors in honey production is bringing the colony up to full strength in time for the main honey harvest. Winter or spring losses of bees are often made up in part by bringing in package bees from the South early in the season. A colony of 10,000 baby bees and a queen in April--about 3 pounds of bees--may be a strong colony of 50,000 or more workers by July. Or the losses may be made up by early division of strong colonies or from natural swarms.

The importance of early colony development and its relationship to a large honey harvest is emphasized by an old jingle of northern beekeepers:

"A swarm of bees in May  
is worth a load of hay;  
A swarm of bees in June  
is worth a silver spoon;  
But a swarm of bees in July  
is not even worth a fly."

Shipments of package bees from the South are normally heavy by April. But this spring, though the demand for package bees and queens was stimulated by the heavy winter losses in the North, cold weather in the South delayed the season and orders were often shipped several weeks late. In addition, the delayed spring and the long-continued rainy weather over much of the northeastern and northcentral honey belt restricted production. Spring was followed by weather that was too hot for bees to fly in comfort or that was so rainy that nectar was washed out of the blossoms.

Strong colonies may still show heavy yields this season and some have already gathered 200 pounds or more of surplus honey. Many colonies, however, have continued to "build up" on the flow to date, and if they secure a surplus, or even winter stores, it will have to be from later bloom. Fortunately, prospects for a fall flow from aster and goldenrod are at least up to average, and in many sections are reported to be very good.

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NEW JERSEY AUCTION MARKET  
INSTALLS NEW POTATO GRADER

Top-quality potatoes for small-unit purchases are available at the Tri-County Farmers' Auction Market at Hightstown, the New Jersey State Department of Agriculture announced recently. A large machine for the cleaning, grading, and packaging of mature potatoes has been installed at the market to assure absolute uniformity in sizing and to facilitate packaging.

The new potato grader, only one of its kind in New Jersey, receives farmers' field-lot potatoes on a rotating belt that carries them under brushes for cleaning. A second belt carries the potatoes over openings of varying diameter through which undersized potatoes failing to meet Federal and State grading requirements drop to a lower conveyor leading to a discard bin. At the same time, experienced sorters watch the belt to select potatoes that, although of the accepted size, may have been damaged when dug.

Graded potatoes are carried either to maturing bins or direct to the packager. Here chutes and a tying device make it possible to package from 1,200 to 2,000 bags an hour in quantities of 10-, 15-, 50-, and 100-pound bags. Every bag of potatoes bears the blue and buff New Jersey State emblem as well as the name "Tri-County Auction Market" and "U.S. Grade No. 1."

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EGG PURCHASING DISCONTINUED BY  
SURPLUS MARKETING ADMINISTRATION

Until further notice, no offerings of fresh eggs will be accepted by the Surplus Marketing Administration under the surplus egg purchase program. Officials of the Administration pointed out that the surplus egg purchase program has largely accomplished its purpose, which was to assist in stabilizing prices during the peak production period. Current supplies are decreasing and prices have strengthened seasonally. These factors, together with the steady outlet for eggs through normal channels of trade and through the expanding Food Stamp Plan, is expected to hold market stability.

MARKETING OFFICIALS CONVENTION  
TO BE HELD IN BOSTON OCT. 7-11

The 1940 convention of the National Association of Marketing Officials will be held in Boston October 7-11, President H. A. Dwinell has announced. In addition to the business sessions, tentative plans include a market tour through Maine, New Hampshire, Vermont, and Massachusetts. The New England Food Exposition, to be held in Boston October 5-13, has also invited the Marketing Officials to one of its sessions.

H. A. Dwinell, Director of the Vermont Division of Markets; Warren W. Oley, Chief of the New Jersey Bureau of Markets; and Webster J. Birdsall, Director of the New York State Bureau of Markets, are arranging the program.

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SOME FRUITS AND VEGETABLES NOT  
WELL ADAPTED TO FROZEN STORAGE

Whole celery, lettuce, citrus fruits, cucumbers, and tomatoes are five popular products that are not well adapted to freezing preservation and storage in lockers under present conditions. Citrus and tomato juices, however, may be frozen for storage, as may desirable varieties of apricots, berries, figs, nectarines, cherries, peaches, plums, asparagus, broccoli, brussels sprouts, cauliflower, corn, snap beans, lima beans, peas, squash, and greens.

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1940 TOTAL CASH FARM  
INCOME SHOWS INCREASE

Present prospects point to a total cash farm income, including Government payments, of about \$8,900,000,000 in 1940, the Bureau of Agricultural Economics reported recently in a monthly analysis of the farm income situation. This is about \$360,000,000, or 5 percent, higher than in 1939, and will be the second highest for any year since 1930. In 1937, cash farm income, including Government payments, totaled \$9,111,-000,000.

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Although the belief is prevalent in the United States and elsewhere that the hard red spring wheats are superior to the hard red winter wheats in baking quality, a survey of the published work of many scientists who have used both in their studies fails to provide any consistent support for this view. When the two wheats are compared on the same protein basis they are found to be equal in intrinsic baking quality.

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Production of hairy-vetch seed this year--the largest on record--is estimated at about 20 million pounds of clean seed.

The following reports issued during August may be obtained upon request to the Agricultural Marketing Service, Washington, D. C.

A New Technique for the Estimation of Changes in Farm Employment  
----By A.R.Sabin

Selling Livestock on Commission Under the Packers and Stockyards Act (Address) ----By C.W.Kitchen

Tobacco Inspection, Market News, and Demonstration Services--  
--By Hugh W. Taylor

The Uses of Alfalfa----By H.L. Westover and W.H. Hosterman

Commercial Fertilizer Used on Cotton, 1922-1939

Liquid Egg Production, 1938-39

Refrigerated Warehouse Space Survey as of October 1, 1939

Farm Production, Farm Disposition, and Value of Soybeans and Cowpeas, 1924-1936

Truck Receipts of Fresh Fruits and Vegetables at 13 Important Markets, 1938-1939

U.S. Graded and Stamped Meat (Leaflet 122--Revised)

Notices of Judgment Under the Insecticide Act (Nos. 1731-1745)

Official Grain Standards of the United States for Soybeans

Market Summaries, 1940 Season:

Marketing the Michigan Onion Crop

" " " Potato Crop

Marketing Potatoes--Kansas, Missouri, Arkansas, and Oklahoma

Marketing Colorado Onions

Marketing Colorado, Nebraska, and Wyoming Potatoes

South Carolina Watermelons

Marketing Florida and Georgia Watermelons

Marketing Arkansas Peaches

Arizona Cantaloups

Marketing California Grapes